VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Virginia Department of Health
Office of Environmental Health Services
109 Governor Street, P.O. Box 2448
Richmond, Virginia 23219 (804) 864-7473

FREQUENTLY ASKED QUESTIONS ABOUT WASTEWATER ENGINEERING BIOSOLIDS PRODUCTION, USE, AND HEALTH EFFECTS

Q. What are biosolids?

A. Biosolids are nutrient-rich organic materials derived from treated sewage sludge so they can be applied as a fertilizer on crop land, forested areas, and pasture land. Biosolids are treated, managed and tested so that they meet the strict standards required for land application in Virginia. The **Biosolids Use Regulations (12-VAC-5-585)** are implemented by VDH and mandate safeguards to protect public health when biosolids are applied to land. Biosolids may only be applied to land if they have been treated to eliminate or reduce pathogens to a level that will not pose health risks when properly applied.

Q. **What is sewage?**

A. Sewage is defined as water-carried wastes from homes, businesses, and industrial processing. Industrial contributions are regulated through permits that impose pre-treatment standards that limit the amounts of pollutants that may be discharged into a public sewer.

Q. **What is the difference between biosolids and sewage sludge?**

A. Biosolids are produced from sewage sludge. Biosolids are carefully treated and monitored and must be used in accordance with regulatory requirements.

Q. **Why do we have biosolids?**

A. We have biosolids as a result of the wastewater treatment process. Water treatment technology has made our water safer for recreation and seafood harvesting. Even thirty years ago, many cities dumped their raw sewage directly into the nation's rivers, lakes, and bays. Local governments are now required to treat wastewater and to make the decision whether to recycle biosolids as fertilizer, incinerate it, or bury it in a landfill.

Q. **How are biosolids generated and processed?**

A. Biosolids are created through the treatment of domestic wastewater generated from sewage treatment facilities. The treatment of biosolids actually begins before the wastewater reaches the sewage treatment process at such facilities. In many larger wastewater treatment systems, pre-treatment regulations require that industrial facilities pre-treat their wastewater to remove many hazardous contaminants before it is sent to a wastewater treatment facility. Wastewater treatment facilities monitor incoming wastewater streams to ensure their recyclability and compatibility with the treatment plant process.

Once the wastewater enters the treatment system, it goes through physical, chemical and biological processes which clean the wastewater and remove the solids. If necessary for reuse, the solids are then digested to convert organic matter to carbon dioxide, or treated with lime to raise the pH level, to control objectionable odors. Thus the wastewater treatment system processes wastewater solids to control pathogens (disease-causing organisms, such as certain bacteria, viruses and parasites) and other organisms capable of transporting disease. The Department of Environmental Quality and the U.S. Environmental Protection Agency (EPA) regulates this aspect of biosolids treatment requirements.

Q. **Why is VDH involved in the regulation of biosolids land application?**

A. VDH develops implements and enforces Virginia's Biosolids Use Regulations. These regulations are more restrictive than the requirements set by the EPA in federal biosolids regulations, 40 C.F.R. Part 503, and are designed to protect public health. Biosolids land appliers must meet certain criteria, such as observing appropriate set-back distances from ground water sources, residences, etc. in order to maintain their permit. Click here to review Virginia's Biosolids Use Regulations.

Q. How is land application of biosolids regulated?

A. VDH encourages counties/municipalities to adopt an approved local ordinance related to biosolids use to assure local monitoring and protection of county lands, as well as assure the safety and welfare of all those who live, work, and play in the county. Each locality approved to use biosolids may hire a local monitor for the program. VDH and the local monitor will closely monitor the use of biosolids on county lands as a soil amendment and enforce regulatory requirements. Each potential application site will have site specific requirements including the testing of soils and biosolids before land-application, nutrient management plans, disclosure to the public and land owner, detailed monitoring and reporting, and county-led inspections. While no evidence has been found of an urgent public health risk from exposure to land-applied biosolids, studies have found that the science used to determine federal standards needs to be updated as chemicals, treatments, and technologies have changed. Click here to learn more about Virginia's permitting process and the federal standards for biosolids land application.

Q. How can I find out if there are plans to use biosolids close to my home?

A. The local government and local monitor, when established, will be notified and aware of the schedule that the biosolids appliers intend to follow in that County. Current regulations are being revised to include requirements for posting of signs at locations near the sites that land appliers are planning to operate, several days or more prior to the start of such operations. The signs will contain contact phone numbers for additional information. Recent legislation passed by the 2005 General Assembly will require land appliers to provide 100 days notice to the local governing body of planned land application within the locality. Notification may be in the form of a list of available permitted sites within the locality and shall include the expected source of biosolids.

Q. Are biosolids safe?

A. VDH's number one priority is to protect the public's health. We treat all public health concerns very seriously. For a number of years, VDH has been assessing both the environmental and possible health effects of

biosolids. VDH is unaware of any scientific evidence to support a link between the land application of biosolids and these illnesses.

Q. **Do biosolids smell?**

A. Biosolids may have their own distinctive odor depending on the type of treatment it has been through. Some biosolids may have only a slight musty, ammonia odor. Others have a stronger odor that may be offensive to some people. Much of the odor is caused by compounds containing sulfur and ammonia, both of which are plant nutrients.

Q. If a biosolids spill occurs on a road, who will clean the spill up?

A. Spills are cleaned up by the land applier, the Virginia Department of Transportation, or the local government using their contractor, depending on the location of the spill. Spills are typically cleaned up within a few hours. Spills resulting from vehicular accidents may require a longer time to remove damaged vehicles. Complaints will be investigated as soon as possible by VDH in cooperation with local governments and enforcement actions where permit violations have occurred.

Q. Who can I contact about complaints related to biosolids?

A. We appreciate feedback from the public and respect for the diverse opinions of our constituents. In fact, the State Health Commissioner established a Biosolids Working Group (BWG) in 2003, to ensure ongoing review of the public health aspects of the land application of biosolids. The BWG will also serve to establish a system for local health department review of health issues involved with biosolids applications. Such a review may lead to further inspections of a potential land application site and possible modification of the permit.

Citizens with health related concerns are encouraged to contact their health care provider or local health department. All other complaints or concerns about biosolids land application should be directed to your county's administrative office. If you prefer to contact VDH directly, please call (804) 864-7473. You can also fax your questions to (804) 864-7475.

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ADDITIONAL WEBSITES

http://www.epa.gov/owm/mtb/biosolids/index.htm

www.deq.virginia.gov